

## Claims

5bA5 1. A method of producing a ceramic body having a construction such that cells are plugged alternately at both end faces of a ceramic honeycomb structural body by filling a plugging slurry into predetermined cells at both end faces of a ceramic honeycomb formed body, comprising the steps of: filling a plugging material for mask into the cells to be opened at one end face of the ceramic honeycomb formed body; immersing the end face, to which the plugging material for mask is filled, into a plugging slurry; and drying and sintering the ceramic honeycomb formed body while the plugging material for mask is removed during a drying step or a sintering step.

2. The method of producing a ceramic body according to claim 1, wherein the plugging material for mask filling step further comprising the steps of: preparing a suction jig having a same honeycomb construction as that of the ceramic honeycomb formed body; adhering a mask, in which holes are arranged corresponding to the cells to be plugged, to one end face of the suction jig; sucking paraffin balls, a diameter of which is larger than a length of one side of the cell, to the predetermined cells at the other end face by sucking from the end face to which the mask is adhered; setting the suction jig, to which paraffin balls are sucked, to the end face of the ceramic honeycomb formed body to which the plugging material is to be filled; aligning the paraffin balls to the cells to be opened by stopping the sucking operation; inserting the thus aligned paraffin balls into the cells by applying pressure; and filling the paraffin balls into the cells to be opened as the plugging material for mask.

3. The method of producing a ceramic body according to claim 2, wherein the improvement further comprising the steps of: sucking the paraffin balls to the other end face by sucking from the one end face to which the paraffin balls are filled; inserting the thus sucked paraffin balls into the cells by applying a pressure; and filling the paraffin balls into the cells to be opened of the other end face.

4. The method of producing a ceramic body according to claim 2, wherein the ceramic honeycomb formed body, in which the paraffin balls

are filled into the cells of the one end face, is used as the suction jig for filling the paraffin balls of the next ceramic honeycomb formed body.

5. 5. The method of producing a ceramic body according to claim 1, wherein the plugging material for mask filling step further comprising the steps of: making a mask for respective ceramic honeycomb formed bodies by piercing a sheet adhered to one end face of the ceramic honeycomb formed body at positions corresponding to the cells to be plugged; immersing the one end face to which the mask is adhered into a liquid paraffin; inserting the liquid paraffin into the cells through the holes of the mask by applying a pressure; and filling the liquid paraffin into the cells to be opened as the plugging material for mask.

6. The method of producing a ceramic body according to claim 5, wherein the piercing step to the sheet adhered to one end face of the ceramic honeycomb formed body further comprising a step of: dividing the cells of the end face into a plurality of small blocks; and performing the piercing for respective small blocks one by one.

7. The method of producing a ceramic body according to claim 1, wherein the plugging material for mask filling step further comprising the steps of: immersing one end face of the ceramic honeycomb formed body into a photo-curing resin before hardening; emanating a light to the photo-curing resin from the other end face through a mask, in which a light is transmitted only to the cells to be opened, so as to harden the photo-curing resin; and filling the photo-curing resin into the cells to be opened as the plugging material for mask.

8. The method of producing a ceramic body according to claim 7, wherein the plugging material for mask filling step further comprising the steps of: immersing the other end face of the ceramic honeycomb formed body into a photo-curing resin before hardening; emanating a light to the photo-curing resin from the one end face through a mask, in which a light is transmitted only to the cells to be opened, so as to harden the photo-curing resin; and filling the photo-curing resin into the cells to be opened as the plugging material for mask.